

1 duration of Baseball 96 and terminates recording thereof at the end of Baseball 96, such
2 that Taxi 68 can also be recorded.

3 While the invention has been described in reference to specific types of conflicts,
4 the general principles for resolving conflicts disclosed herein can be extended to other
5 static and dynamic program schedules and recording systems. In general, the recording
6 systems and methods of the invention respond to conflicts by preserving recording options,
7 communicating the conflicting status of the programs to the viewer, and using the
8 electronic program guide to identify ways in which the viewer's recording wishes can be
9 fulfilled, notwithstanding conflicts that might initially arise.

10 The present invention may be embodied in other specific forms without departing
11 from its spirit or essential characteristics. The described embodiments are to be considered
12 in all respects only as illustrative and not restrictive. The scope of the invention is,
13 therefore, indicated by the appended claims rather than by the foregoing description. All
14 changes which come within the meaning and range of equivalency of the claims are to be
15 embraced within their scope.

16 What is claimed and desired to be secured by United States Letters Patent is:

1. In a system that includes a recording apparatus, a method for controlling the recording apparatus in response to programs that have been selected for recording and that have coinciding broadcast times, the method comprising the acts of:

receiving user input selecting a first program for recording, the first program having a first broadcast time;

programming the recording apparatus to record the first program at the first broadcast time;

receiving user input selecting a second program for recording, the second program having a second broadcast time that at least partially coincides with the first broadcast time; and

determining that a conflict exists between the first program and the second program and storing, at the system, information specifying that the user has selected both the first program and the second program to be recorded.

2. A method as recited in claim 1, further comprising the act of communicating to the user information specifying that the conflict exists and that the second program is to be recorded only if the conflict is resolved prior to the second broadcast time.

3. A method as recited in claim 2, further comprising the act of receiving no further user input in response to the act of communicating, such that the information specifying that the user has selected both the first program and the second program to be recorded remains stored at the system.

4. A method as recited in claim 1, further comprising the acts of:
 - after determining that the conflict exists, determining that the conflict has been resolved; and
 - programming the recording apparatus to record the second program at the second broadcast time.

5. A method as recited in claim 4, wherein the act of determining that the conflict has been resolved is conducted in response to the first program having been preempted such that the first program is not broadcast at the first broadcast time.

6. A method as recited in claim 4, wherein the act of determining that the conflict has been resolved is conducted in response to an additional tuner being made available at the system, such that both the first program and the second program can be recorded simultaneously.

7. A method as recited in claim 1, wherein the act of determining that the conflict has been resolved is conducted in response to at least one of a start time and an end time of at least one of the first program and the second program changing from that which was scheduled, such that no portion of the first program coincides with any portion of the second program.

1 8. A method as recited in claim 7, wherein the act of determining that the
2 conflict has been resolved comprises the act of analyzing broadcast data broadcast on a
3 channel that includes one of the first program and the second program, the broadcast data
4 identifying said at least one of the start time and the end time of said at least one of the first
5 program and the second program.

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7 9. A method as recited in claim 1, further comprising, after the act of
8 determining that the conflict exists, the act of determining that an episode of the second
9 program to be shown at the second broadcast time is also to be shown at another broadcast
10 time that does not conflict with the first broadcast time, thereby resolving the conflict.

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12 10. A method as recited in claim 1, wherein:

13 the user input selecting the first program for recording specifies that the
14 recording of the first program is optional and is to be overridden by a subsequent
15 selection of a conflicting program; and

16 the act of receiving user input selecting the second program is conducted
17 after the act of receiving user input selecting the first program, such that the second
18 program is scheduled to be recorded rather than the first program.

1 11. In a system that includes a recording apparatus, a method for resolving a
2 conflict between programs that have been selected for recording and have coinciding
3 broadcast times, the method comprising the acts of:

4 receiving input selecting a first program for recording, the first program
5 having a first broadcast time;

6 receiving input selecting a showing of an episode of a second program for
7 recording, the showing of the episode having a second broadcast time that at least
8 partially coincides with the first program;

9 automatically determining that said episode of the second program also has
10 another showing at another broadcast time that does not coincide with the first
11 broadcast time; and

12 programming the recording apparatus to record the first program at the first
13 broadcast time and said other showing of the episode of the second program at the
14 said other broadcast time.

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16 12. A method as recited in claim 11, wherein the act of automatically
17 determining that said episode of the second program also has another showing comprises
18 the act of analyzing data associated with an electronic program guide at the system.

1 13. A method as recited in claim 12, wherein the act of analyzing data
2 associated with an electronic program guide comprises the act of finding a program listing
3 associated with said other showing by determining that a program identifier included in
4 said program listing associated with said other showing matches a program identifier
5 included in a program listing associated with said showing of said episode of said second
6 program.

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8 14. A method as recited in claim 11, further comprising the act of
9 communicating to the user information indicating that said other showing of the episode of
10 the second program is to be recorded at said other broadcast time.

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12 15. A method as recited in claim 11, wherein the other showing of the episode
13 of the second program is to be broadcast on a channel different from the channel on which
14 said selected showing of the episode is to be broadcast.

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1 16. In a system that includes a recording apparatus, a method for resolving
2 conflicts between programs that have been selected for recording and have coinciding
3 broadcast times, at least one of the programs being a repeating program, the method
4 comprising the acts of:

5 receiving input selecting a repeating first program to be recorded on a
6 repetitive basis;

7 receiving input selecting a second program for recording, the second
8 program having a broadcast time that at least partially coincides with at least one
9 showing of the repeating first program but does not coincide with other showings
10 of the repeating first program; and

11 programming the recording apparatus to record the second program and to
12 record the showings of the repeating first program on a repetitive basis, except for
13 said at least one showing of the repeating first program with which the second
14 program at least partially coincides.

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16 17. A method as recited in claim 16, wherein:

17 the act of receiving input selecting the repeating first program is conducted
18 prior to the act of receiving input selecting the second program;

19 the method further comprises, prior to the act of receiving input selecting
20 the second program, the act of provisionally programming the recording apparatus
21 to record all showings of the repeating first program; and

22 the act of programming the recording apparatus comprises the act of
23 modifying the provisional programming of the recording apparatus to specify that
24 said at least one showing of the repeating first program is not to be recorded.

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2 18. A method as recited in claim 16, wherein the act of receiving input selecting
3 the repeating first program is conducted after the act of receiving input selecting the second
4 program.

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6 19. A method as recited in claim 16, wherein the act of programming the
7 recording apparatus is conducted without receiving user input specifically indicating that
8 said at least one showing of the repeating first program with which the second program at
9 least partially coincides is to not be recorded.

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11 20. A method as recited in claim 16, wherein the second program is a non-
12 repeating program.

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14 21. A method as recited in claim 16, wherein the second program is a repeating
15 program that has a frequency less than the frequency of the repeating first program.

1 22. In a system that includes a recording apparatus, a method for resolving
2 conflicts between programs that have been selected for recording and have coinciding
3 broadcast times, the method comprising the acts of:

4 receiving input selecting a first program for recording, the first program
5 having a first broadcast time;

6 receiving input selecting a second program for recording, the second
7 program having an expected second broadcast time having an expected start time
8 and an expected end time;

9 monitoring broadcast data on a channel on which the second program is to
10 be broadcast to determine that at least one of an actual start time and an actual end
11 time differs from the respective expected start time and expected end time;

12 based on the act of monitoring the broadcast data, determining whether both
13 the first program and the second program can be recorded and, if so, recording both
14 the first program and the second program using the recording apparatus.

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16 23. A method as recited in claim 22, wherein the first broadcast time does not
17 coincide with the expected second broadcast time and the first broadcast time at least
18 partially coincides with an actual second broadcast time defined by the actual start time
19 and the actual end time, such that:

20 the act of determining whether both the first program and the second
21 program can be recorded results in a determination that one of the first program and
22 the second program cannot be recorded.

1 24. A method as recited in claim 23, further comprising the act of recording all
2 of the second program during the actual second broadcast time as opposed to recording
3 only that portion of the second program that is broadcast during the expected second
4 broadcast time.

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6 25. A method as recited in claim 22, wherein the first broadcast time at least
7 partially coincides with the expected second broadcast time and the first broadcast time
8 does not coincide with an actual second broadcast time defined by the actual start time and
9 the actual end time, such that:

10 a conflict between the first broadcast time and the expected second
11 broadcast time is resolved and both the first program and the second program are
12 recorded.

1 26. In a system that includes a recording apparatus and an electronic program
2 guide, a method for responding to dynamic conditions associated with the system so as to
3 identify programs to be recorded after a conflict between selected programs is resolved, the
4 method comprising the acts of:

5 in response to user input selecting a first program for recording,
6 programming the recording apparatus to record the first program at a first broadcast
7 time using the electronic program guide;

8 receiving user input selecting a second program for recording, the second
9 program having a second broadcast time that at least partially coincides with the
10 first broadcast time;

11 determining that a conflict exists between the first program and the second
12 program, such that the second program is not to be recorded unless the conflict is
13 resolved;

14 storing at the system information specifying that the user has selected the
15 second program for recording; then

16 in response to the conflict between the first program and the second
17 program being resolved, automatically programming the recording apparatus to
18 record the second program; and

19 recording the second program using the recording apparatus.

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21 27. A method as recited in claim 26, wherein the conflict is resolved upon the
22 system receiving user input deselecting the first program.

1 28. A method as recited in claim 26, wherein the conflict is resolved upon an
2 additional tuner being made available at the system, such that both the first program and
3 the second program can be recorded simultaneously.

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5 29. A method as recited in claim 26, wherein the conflict is resolved upon the
6 first program being preempted such that the first program is not broadcast at the first
7 broadcast time.

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9 30. A method as recited in claim 26, wherein the conflict is resolved upon at
10 least one of a start time and an end time of at least one of the first program and the second
11 program changing from that which was scheduled, such that no portion of the first program
12 coincides with any portion of the second program.

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14 31. A method as recited in claim 26, wherein the conflict is resolved upon the
15 system performing the act of determining that an episode of the second program to be
16 shown at the second broadcast time is also to be shown at another broadcast time that does
17 not conflict with the first broadcast time, the act of automatically programming the
18 recording apparatus to record the second program comprising the act of programming the
19 recording apparatus to record the second program at said other broadcast time.

1 32. A method as recited in claim 26, further comprising the acts of:

2 prior to the conflict being resolved, receiving user input selecting a third

3 program for recording at a third broadcast time; and

4 prior to the act of programming the recording apparatus to record the

5 second program and after the conflict is resolved, reconsidering which of the

6 selected programs, including the second program and the third program, are to be

7 recorded, using a priority list that lists the programs in an original order in which

8 the selected programs were selected.

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10 33. A method as recited in claim 26, further comprising the acts of:

11 prior to the conflict being resolved, receiving user input selecting a third

12 program for recording at a third broadcast time; and

13 prior to the act of programming the recording apparatus to record the

14 second program and after the conflict is resolved, reconsidering which of the

15 selected programs, including the second program and the third program, are to be

16 recorded, using a priority list that lists the selected programs first by whether the

17 recording apparatus was originally programmed to record the selected programs

18 and second in an original order in which the selected programs were selected.

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